ATEN

2/4-Port USB DVI KVM Switch
CS72D / CS74D
User Manual

www.aten.com

FCC Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T
　11363-2006规定的限量要求之下。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的
　某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超
　出SJ/T 11363-2006的限量要求。

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Package Contents

The CS72D / CS74D package consists of:

◆ 1 CS72D / CS74D 2/4-Port USB DVI KVM Switch

◆ 1 1.2 m 44-pin Custom KVM Cable Set

◆ 1 1.8 m 44-pin Custom KVM Cable Set (for CS74D only)

◆ 1 Power Adapter (for CS74D only)

◆ 1 User Instructions*

Check to make sure that all the components are present and that nothing got damaged in shipping. If you encounter a problem, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

* Features may have been added to the CS72D / CS74D since this manual was published. Please visit our website to download the most up-to-date version of the manual.

Contents

About this Manual

This User Manual is provided to help you get the most from your CS72D / CS74D. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the CS72D / CS74D system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, Hardware Setup, describes how to set up your installation. The necessary steps are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CS72D / CS74D.

Chapter 4, Hotkey Operation, details all of the concepts and procedures involved in the Hotkey operation of your CS72D / CS74D installation.

Chapter 5, Keyboard Emulation, provides tables that list the PC to Mac and PC to Sun keyboard emulation mappings.

Chapter 6, The Firmware Upgrade Utility, explains how to use this utility to upgrade the CS72D / CS74D's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CS72D / CS74D.

Conventions

This manual uses the following conventions:

Monospaced	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Chapter 1
Introduction

Overview

The CS72D / CS74D 2/4-Port USB DVI KVM Switch allows you to control two or four computers using one USB mouse, USB keyboard and Digital Visual Interface (DVI) monitor console. It supports digital video devices, such as flat panel displays, data projectors, plasma displays and digital TVs.

The CS72D / CS74D comes with ATEN's Video DynaSync™ technology, which eliminates boot-up display problems and optimizes resolution; as well as Power On Detection, which means if one computer is powered off, the CS72D / CS74D automatically switches to the next powered-on computer.

The CS72D / CS74D is audio enabled. You can listen to the audio output of each computer on a single set of speakers on a one-computer-at-a-time basis. It also permits each computer to access any peripherals connected to the USB ports.

Setup is fast and easy; simply plug cables into their appropriate ports. There is no software to configure, no installation routines, and no incompatibility problems. Since the CS72D / CS74D intercepts keyboard input directly, it works on multiple computing platforms (PC x86 / x64, Macintosh PowerPC, and Sun Microsystems Sparc).

There are three convenient methods to access the computers: port selection pushbuttons located on the unit's front panel; hotkey combinations entered from the keyboard; and mouse port-switching – simply double-click on the scroll wheel of a USB mouse to change ports.

There is no better way to save time and money than with a CS72D / CS74D installation. Since a single console manages all of the computers, the CS72D / CS74D setup: eliminates the expense of having to purchase separate console components for each computer; saves all the space those extra components would take up; saves on energy costs; and eliminates the inconvenience and wasted effort involved in constantly moving from one computer to another.

Features

- One DVI console controls two (CS72D) or four (CS74D) USB interface computers

- Fully compliant with DVI specification (Digital only)

- Supports multi-function and wireless mouse/keyboard

- Audio enabled – full bass response provides a rich experience for 2.1 channel surround sound systems

- Superior video quality – up to 1920 x 1200 @60Hz

- Auto Scan Mode for monitoring all computers

- Multiplatform support – Windows, Linux, Mac, FreeBSD and Sun

- Supports hot-plugging

- HDCP compliant

- Power on detection – if one computer is powered off, the switch automatically switches to the next powered-on computer

- Video DynaSync™ – exclusive ATEN technology optimizes display resolution and eliminates boot-up display problems

- Console mouse port emulation/bypass feature supports most mouse drivers and multifunction mice

- Computer selection via front panel pushbuttons, hotkeys, and mouse switching function*

- USB 2.0 mouse port can be used for USB hub and USB peripheral sharing (with mouse emulation turned off)

- Complete keyboard emulation for error-free booting

- Non-powered (CS72D only)

- Mac/Sun keyboard support and emulation**

> **Note:** 1. *Mouse port switching is only functional under mouse emulation mode and USB 3-key wheel mouse
>
> 2. **PC keyboard combinations emulate Mac/Sun keyboards; Mac/ Sun keyboard work only with their own computers

Hardware Requirements

Console

- A DVI compatible monitor capable of the highest possible resolution
- A USB mouse
- A USB keyboard
- Speakers (optional)

Computers

The following equipment must be available on each computer:

- A DVI port

  Note: The quality of the display is affected by the quality of the DVI display card. For best results, we recommend you purchase a high quality product.

- Type A USB port
- Audio port (optional)

Cables

- DVI-D KVM cable set – 1.2 m 44-pin cable / 1.8 m 44-pin cable (CS74D) specifically designed to work with this switch, may be used to link to the computers. One (CS72D) or two (CS74D) cable set(s) are provided with this package.

Note: The quality of the display is affected by the quality and length of the cables. If you need additional cable sets, please contact your dealer to purchase the appropriate ones for your switch.
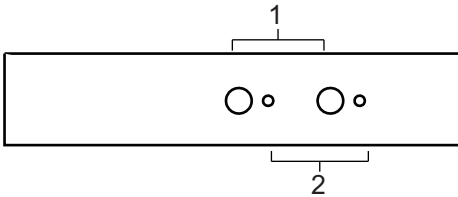
- DVI cable for your DVI monitor

Operating Systems

Supported operating systems are shown in the table, below:

OS		Version
Windows		2000 / XP / 2003 / 2008 / Vista / X86 / X64 / 7 / 8
Linux	RedHat	9.0 and higher
	SuSE	10 / 11.1 and higher
	Mandriva (Mandrake)	Linux 2006 and higher
	Debian	3.1 / 4.0
	Ubuntu	7.04 / 7.10
UNIX	FreeBSD	5.5 and higher
	Sun	Solaris 8 and higher
Novell	Netware	6.0 and higher
Sun	Solaris 9 and higher	
Mac		OS 9 to 10.5

Note: Supports Linux Kernel 2.6 and higher.

Components

<u>CS72D Front View</u>


<u>CS74D Front View</u>

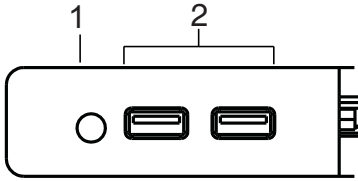| No.	Component	Description
1	Port Selection Pushbuttons	For manual port selection, press a port selection pushbutton to bring the KVM focus to the computer attached to its corresponding port. See *Manual Switching*, page 11 for more details.
2	Port LEDs	The Port LEDs are built into the Port Selection Switches. ◆ Flashes indicate that the computer attached to the corresponding port has the KVM focus and is being accessed in Auto Scan Mode (see *Auto Scanning*, page 14). ◆ Lights steady to indicate that the computer attached to its corresponding port is the one that has the KVM focus. ◆ The LED is off when the port is not selected.

CS72D Rear View
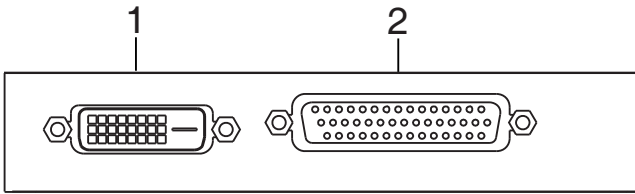
CS74D Rear View
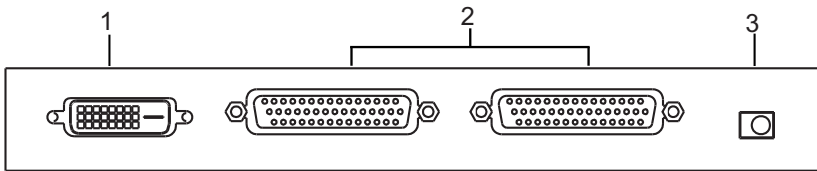
No.	Component	Description
1	DVI Console Port	The cable from your DVI monitor plugs in here. **Note:** The USB keyboard and USB mouse ports are located on the unit's side panel.
2	Computer Port(s)	The cable(s) that link the switch to your computers plug in here. Note: You can identify the computers by the port into which they are connected – they are labeled as: PC1 / PC2 for CS72D; PC1 / PC2 / PC3 / PC4 for CS74D.
3	Power Jack (CS74D only)	The power adapter cable plugs into this jack.

CS72D / CS74D Side View

No.	Component	Description
1	Audio Port	The cable from your speakers plugs in here.
2	USB Console Ports	Your USB keyboard and USB mouse plug in here.
		The USB 2.0 mouse port can be used for connecting a USB hub and USB peripheral sharing (with mouse emulation turned off). An additional power adapter might be required for the hub.

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Chapter 2
Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 29. Please review it before proceeding.

2. Make sure that power to all the devices you will be installing has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.
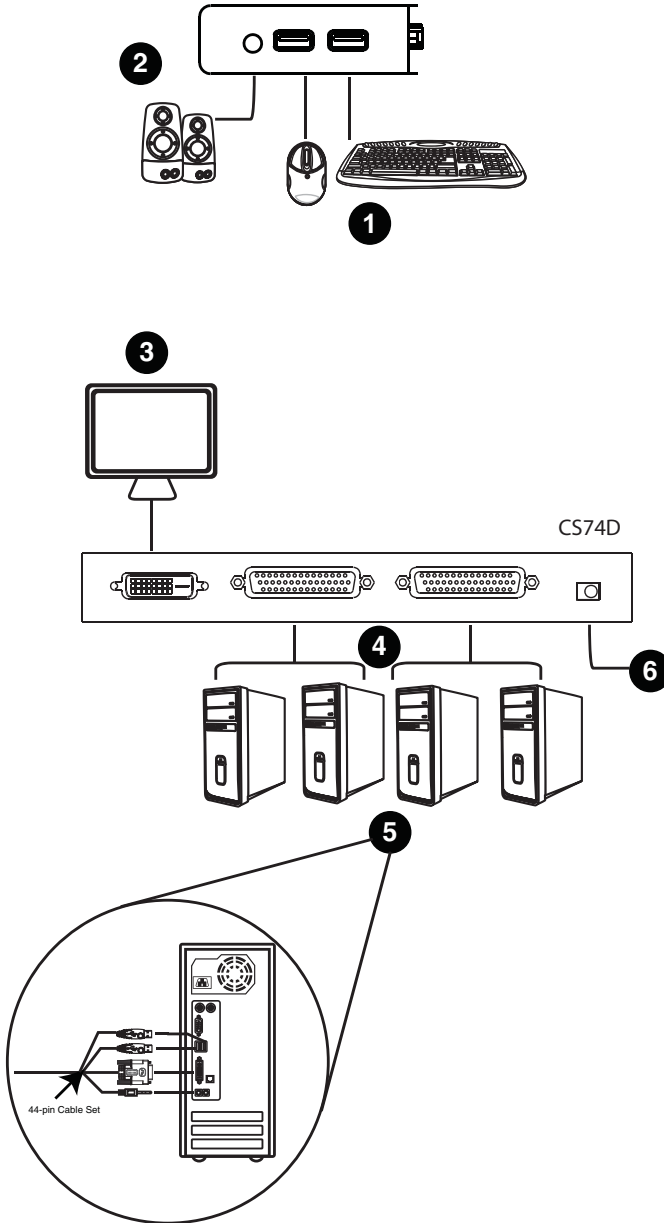
Cable Connections

To set up your CS72D / CS74D, refer to the installation diagram on the following page (the numbers in the diagram correspond to the steps below), and do the following:

1. Plug your USB keyboard and USB mouse into the **USB Console** ports located on the unit's side panel.

   Note: The USB ports can also be used for other USB peripherals that you want to share between the computers.

2. Plug your speakers into the **Audio** port located on the unit's side panel.

3. Plug your DVI monitor into the **DVI Console** port located in the unit's rear panel and power on the monitor.

4. Using the provided 44-pin cable set, plug the 44-pin connector into the **Computer** port(s) of the switch.

5. At the other end of the cable, plug the USB, DVI-D and speaker connectors into their respective ports on the computer.

6. (CS74D only) Plug the power adapter that came with your switch into a power source, then plug power adapter cable into the switch's Power Jack.

7. Turn on the power to the computers.

Installation Diagram

CS74D

Note: The diagram uses CS74D panels to illustrate the cable connection steps.

Chapter 3
Basic Operation

Manual Switching

There are three convenient methods to access the computers: Manual – which involves pressing the port selection pushbuttons located on the unit's front panel; Mouse – which involves clicking the scroll wheel of the mouse; and Hotkey – which involves entering combinations from the keyboard. Hotkey port selection is discussed in the next chapter.

For manual port selection:

- Press and release a port selection pushbutton to bring the KVM focus to the computer attached to its corresponding port.

- When Auto Scan Mode is triggered (see page 14 for details), press and release a port selection pushbutton to stop auto scanning. The KVM focus goes to the computer attached to the corresponding port of the switch you pressed.

Mouse Port-switching

The CS72D / CS74D supports the very latest in mouse port-switching – simply double-click the scroll wheel of your USB mouse to cycle through the ports.

Note: 1. This featured is only supported by USB 3-key scroll wheel mice.

2. The default setting is off.

3. This feature is only supported when Mouse Emulation is enabled. See *Mouse Emulation Control*, page 15, for details.

Hot Plugging

The CS72D / CS74D supports USB hot plugging – components can be removed and added back into the installation by unplugging their cables from the USB hub ports without the need to shut the unit down.

Firmware Upgrade

Refer to *The Firmware Upgrade Utility*, page 23 for a step-by-step guide on upgrading the firmware. In summary, do the following steps:

1. Push and hold the **Port 1** pushbutton located in the unit's front panel, and power on the unit.

2. Check the front panel LEDs:
   - The CS72D front panel LEDs flash to indicate that Firmware Upgrade Mode is in effect
   - For CS74D, the front panel LEDs of Port 3 and Port 4 lights steady to indicate that Firmware Upgrade Mode is in effect (the LEDs of Port 1 and Port 2 are off)

3. Update the firmware manually via command line by following the instructions shown on the screen.

Powering Off and Restarting

If it becomes necessary to Power Off the CS72D / CS74D unit, before starting it back up you must do the following:

1. Shut down all the computers that are attached to the switch.

2. Unplug the switch's power adapter cable.

3. Wait 10 seconds, then plug the switch's power adapter cable back in.

4. After the switch is up, Power On the computers.

Chapter 4
Hotkey Operation

The CS72D / CS74D provides an extensive, easy-to-use, hotkey function that makes it convenient to control and configure your KVM installation from the keyboard.

Hotkey Setting Mode

All hotkey operations begin with tapping the **Scroll Lock** key twice. This invokes the Hotkey Setting Mode (HSM), which can be followed by tapping key combinations and the [Enter] key to perform various operations.

The tables below describe the actions that each combination performs.

Note: If using the Scroll Lock key conflicts with other programs running on the computer, the **Ctrl** key can be used, instead. See *Alternate Hotkey Setting Mode*, page 14 for details.

Port Switching

Hotkey	Action
[Scroll Lock] [Scroll Lock] [Enter] [Scroll Lock] [Scroll Lock] [Port ID] [Enter] (for CS74D only)	Brings the **KVM** and **audio** focus from the port that currently has the KVM focus to the next port on the installation (1 to 2; 2 to 1 for the CS72D; 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS74D). For CS74D only – replace [Port ID] with the port ID (1-4) to which you want to switch the **KVM** and **audio** focus **Note:** The KVM and audio focus all go to this port even if they were on different ports to begin with.
[Scroll Lock] [Scroll Lock] [X] / [x] [Enter]	1. Change [Scroll Lock], [Scroll Lock] to [Ctrl], [Ctrl]. 2. Press again to change back.
[Scroll Lock] [Scroll Lock] [K] / [k] [Enter]	Brings only the **KVM** focus from the port that currently has it to the next port on the installation.
[Scroll Lock] [Scroll Lock] [S] / [s] [Enter]	Brings only the **audio** focus from the port that currently has it to the next port on the installation.

Alternate Hotkey Setting Mode

The port switching activation keys can be changed from tapping the Scroll Lock key twice ([Scroll Lock] [Scroll Lock]) to tapping the Ctrl key twice ([Ctrl] [Ctrl]). To change the port switching activation keys, do the following:

1. Invoke HSM (see page 13).

2. Press **[X]** or **[x] [Enter]**.

Note: This procedure is a toggle between the two methods. To revert back to the original [Scroll Lock] [Scroll Lock] method, invoke HSM, then press and release the **X** key again.

Auto Scanning

The CS72D / CS74D's Auto Scan feature automatically cycles the KVM focus through the computer ports at regular intervals. This allows you to monitor the computer activity without having to take the trouble of switching from port to port manually. Although the video focus switches from port to port, the keyboard, mouse, and USB focus doesn't switch. They stay at the port they were on when Auto Scanning started. See the table below for details. .

Hotkey	Action
[Scroll Lock] [Scroll Lock] [A] / [a] [Enter]	Invokes Auto Scan. The KVM focus cycles from port to port at **5 second intervals**. Five second intervals is the Default setting.
[Scroll Lock] [Scroll Lock] [A] / [a] [Enter] [n]	Starts Auto Scan. The KVM focus cycles from port to port at n second intervals. **Note:** Replace n with a number between 1 and 4 (see Scan Interval details below). Replace **n** with a number between 1 and 4 when entering this hotkey combination. ◆ **[1]** change scan interval to **3** seconds ◆ **[2]** change scan interval to **5** seconds (default) ◆ **[3]** change scan interval to **10** seconds ◆ **[4]** change scan interval to **20** seconds To exit Auto Scan, press [Esc] or [Spacebar]. Auto Scanning stops when you exit Auto Scan mode.

When you use the port switching hotkey or HSM, the mouse cursor must be in the current computer display.

While Auto Scan Mode is in effect, ordinary keyboard and mouse functions are suspended – only Auto Scan Mode compliant keystrokes and mouse clicks can be input. You must exit Auto Scan Mode (press the **Esc** key or the **Spacebar**) in order to regain normal control of the console.

Video DynaSync

Video DynaSync is ATEN's exclusive technology that eliminates boot-up display problems and optimizes resolution when switching between ports.

To manually detect and remember monitor EDIDs, do the following:

1. Invoke HSM (see page 13).

2. Press **[D]** or **[d] [Enter]**.

> **Note:** If the monitor is disconnected and reconnected, the CS72D / CS74D re-executes Video DynaSync.

Mouse Emulation Control

The default setting is enabled. To disable, do the following:

1. Invoke HSM (see page 13).

2. Press **[M]** or **[m] [Enter]**.

This procedure is a toggle. Repeat to enable.

Mouse Port-switching

The Mouse Port-switching function can be enabled or disabled. The default setting is disabled. To enable, do the following:

1. Invoke HSM (see page 13).

2. Press **[W]** or **[w] [Enter]**.

This procedure is a toggle. Repeat to disable.

Note: The feature is only supported when mouse emulation is enabled. See *Mouse Emulation Control*, above.

Power On Detection

With the Power On Detection feature, the switch automatically switches to the next powered-on computer if one computer is powered off. This feature is enabled by default. To disable Power On Detection, do the following:

1. Invoke HSM (see page 13).

2. Press **[E]** or **[e]**.

This procedure is a toggle. Repeat to enable.

Keyboard Operating Platform

The CS72D / CS74D's default port configuration is for a PC compatible keyboard operating platform. If your console uses a PC compatible keyboard and you have a Mac attached to a port, for example, you can change the port's keyboard operating platform configuration so that the PC compatible keyboard emulates the Mac keyboard. The procedure is as follows:

1. Bring the KVM focus to the port you want to set.

2. Invoke HSM (see page 13)

3. Press and release the appropriate Function key (see table below). After completing this procedure, you automatically exit HSM.

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Function Key	Operation
[F2] [Enter]	Enables Mac keyboard emulation, see *Mac Keyboard*, page 21 for details. To cancel, press [Scroll Lock] [Scroll Lock] [F10] [Enter].
[F3] [Enter]	Enables Sun keyboard emulation, see *Sun Keyboard*, page 22 details. To cancel, press [Scroll Lock] [Scroll Lock] [F10] [Enter].
[F10] [Enter]	Automatically detects and sets the keyboard operating platform.

Note: To set the keyboard language, see *Keyboard Language*, page 17.

List Switch Settings

To see a listing of the current switch settings, do the following:

1. Open a text editor or word processor and place the cursor in the page window.

2. Invoke HSM (see page 13).

3. Press **[F4] [Enter]** to display the settings.

USB Reset

If the USB loses focus and needs to be reset, do the following:

1. Invoke HSM (see page 13).

2. Press **[F5] [Enter]**.

Keyboard Language

To change the keyboard language, do the following:

1. Invoke HSM (see page 13).

2. Press **[F6] [*nn*] [Enter]**.

> **Note:** *nn* is a two-digit number that represents the keyboard language code (US English: 33; French: 08; Japanese: 15).

Restore Default Settings

To reset the CS72D / CS74D to its default hotkey settings, do the following:

1. Invoke HSM (see page 13).

2. Press **[R]** or **[r] [Enter]**.

See **Hotkey Summary Table** below.

Hotkey Summary Table

After invoking HSM (see page 13), key in one of the following keys to perform the corresponding function:

Key	Function
[X] / [x] [Enter]	Toggles between the default ([Scroll Lock] [Scroll Lock]) and alternate ([Ctrl] [Ctrl]) Port Switching keys.
[K] / [k] [Enter]	Toggles the KVM focus.
[S] / [s] [Enter]	Toggles the audio focus.
[A] / [a] [Enter] [n]	Starts Auto Scan. The KVM focus cycles from port to port at n second intervals. **Note:** Replace n with a number between 1 and 4 (see Scan Interval details below). • **[1]** change scan interval to **3** seconds • **[2]** change scan interval to **5** seconds (default) • **[3]** change scan interval to **10** seconds • **[4]** change scan interval to **20** seconds To exit Auto Scan, press [Esc] or [Spacebar]. Auto Scanning stops when you exit Auto Scan mode.
[D] / [d] [Enter]	Invokes Video DynaSync, ATEN's exclusive technology that eliminates boot-up display problems and optimizes resolution when switching between ports.
[M] / [m] [Enter]	Enables/Disables mouse emulation.
[W] / [w] [Enter]	Enables/Disables mouse port-switching.

Key	Function
[wheel][wheel]	If mouse port-switching is active, clicking the mouse wheel twice switches to the next port.
[E]	Enables/disables Power On Detection.
[F2] [Enter]	Enables Mac keyboard emulation.
[F3] [Enter]	Enables Sun keyboard emulation
[F10] [Enter]	Automatically detects and sets the keyboard operating platform.
[F4] [Enter]	Lists the current switch settings via the paste function of a text editor.
[F5] [Enter]	Performs a reset on all USB devices.
[F6] [*nn*] [Enter]	Sets the keyboard language. **Note:** *nn* is a two-digit number that represents one of the following keyboard language code: US English: 33; French: 08; Japanese: 15.
[R] / [r] [Enter]	Resets the hotkey settings to their default status.

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Chapter 5
Keyboard Emulation

Mac Keyboard

The PC compatible (101/104 key) keyboard can emulate the functions of the Mac keyboard. The emulation mappings are listed in the table below.

PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
⊞	⌘
[Ctrl] [1]	🔇
[Ctrl] [2]	🔉
[Ctrl] [3]	🔊
[Ctrl] [4]	⏏
[Alt]	L Alt / Option
[Print Screen]	F13
[Scroll Lock]	F14
🗎	=
[Enter]	Return
[Backspace]	Delete
[Insert]	Help
[Ctrl] ⊞	F15

Note: When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

Sun Keyboard

The PC compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard when the Control key [Ctrl] is used in conjunction with other keys. The corresponding functions are shown in the table below.

PC Keyboard	Sun Keyboard
[Ctrl] [T]	Stop
[Ctrl] [F2]	Again
[Ctrl] [F3]	Props
[Ctrl] [F4]	Undo
[Ctrl] [F5]	Front
[Ctrl] [F6]	Copy
[Ctrl] [F7]	Open
[Ctrl] [F8]	Paste
[Ctrl] [F9]	Find
[Ctrl] [F10]	Cut
[Ctrl] [1]	▭ ◀
[Ctrl] [2]	◑ - ◀
[Ctrl] [3]	◑ + ◀))
[Ctrl] [4]	☾
[Ctrl] [H]	Help
📝	Compose
⊞	◆

Note: When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

Chapter 6
The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware. The Utility comes as part of a Firmware Upgrade Package that is specific for each device. Check the web site regularly to find the latest packages and information relating to them at `http://www.aten.com`

Before you Begin

1. From a computer that is not part of your KVM installation go to our Internet support site and choose the model name that relates to your device (CS72D / CS74D) to get a list of available Firmware Upgrade Packages.

2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.

3. Power off the CS72D/CS74D and disconnect it from your KVM installation. Connect the 44-pin connector of the Custom KVM cable set to the 44-pin **Computer Port 1.**


Custom
KVM Cable Set
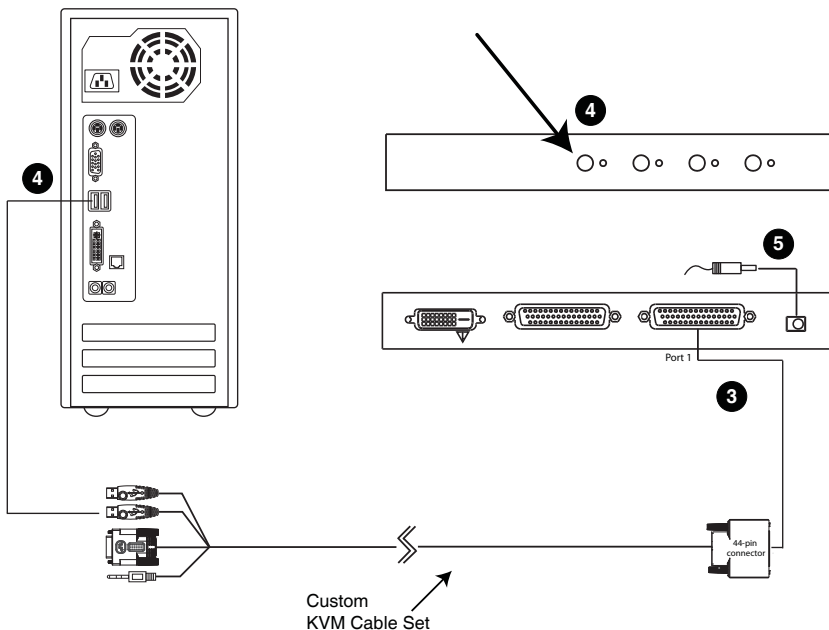
4. Press and hold the **Port 1** pushbutton on the unit's front panel. While holding down the **Port 1** pushbutton, connect **PC1**'s USB Keyboard Type A connnector in the Custom KVM cable set to a USB port on your computer.

> **Note:** The **Computer Port 1** at the rear panel of the unit is labeled accordingly – use the cable that is attached to the **PC1** port.

5. Power on the unit, and release the Port 1 pushbutton:
   - ◆ The CS72D front panel LEDs flash to indicate that Firmware Upgrade Mode is in effect
   - ◆ For CS74D, the front panel LEDs of Port 3 and Port 4 lights steady to indicate that Firmware Upgrade Mode is in effect (the LEDs of Port 1 and Port 2 are off)

Starting the Upgrade

1. Run the downloaded Firmware Upgrade Package file – either by double clicking the file icon, or using a command line to enter the full path.

   The *Firmware Upgrade Utility* Welcome screen appears.

2. Read the License Agreement (enable the *I Agree* radio button).
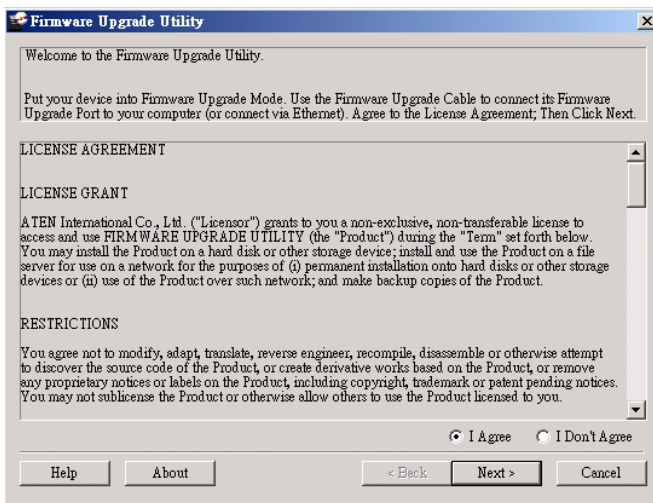
3. Click **Next.** The Firmware Upgrade Utility main screen appears. The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.
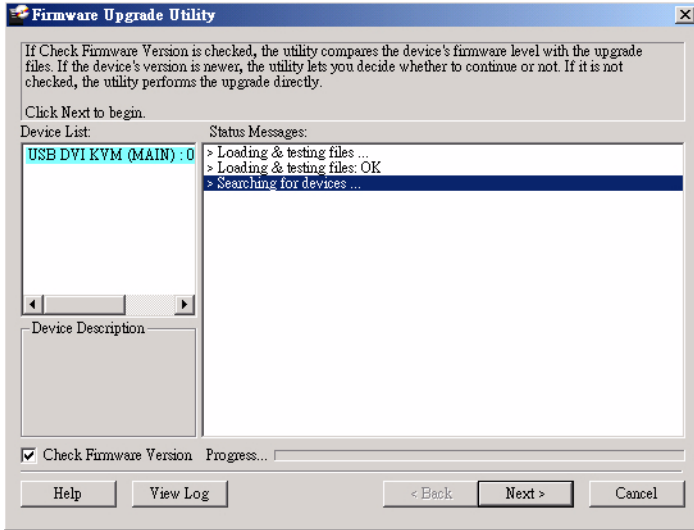
4. As you select a device in the list, its description appears in the Device Description panel.After you have made your device selection(s), Click **Next** to perform the upgrade.

If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If the device's version is higher than the upgrade version, a dialog box gives you the option to Continue or Cancel.
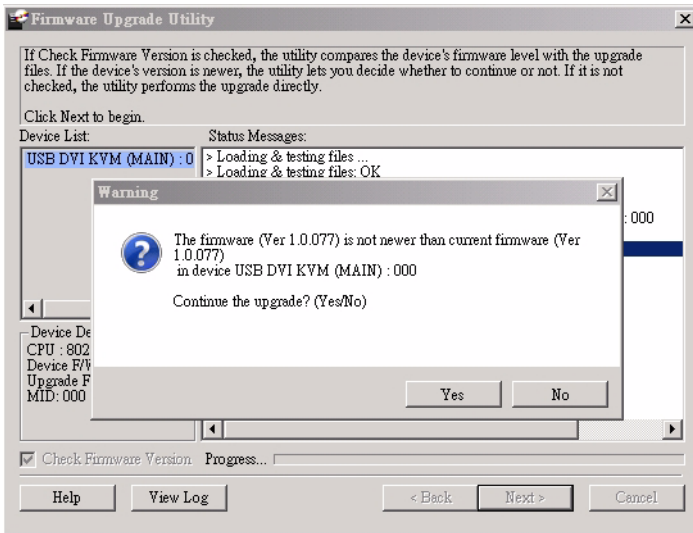
If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

As the Upgrade proceeds status messages appear in the Status Messages panel, and the progress toward completion is shown on the *Progress* bar.
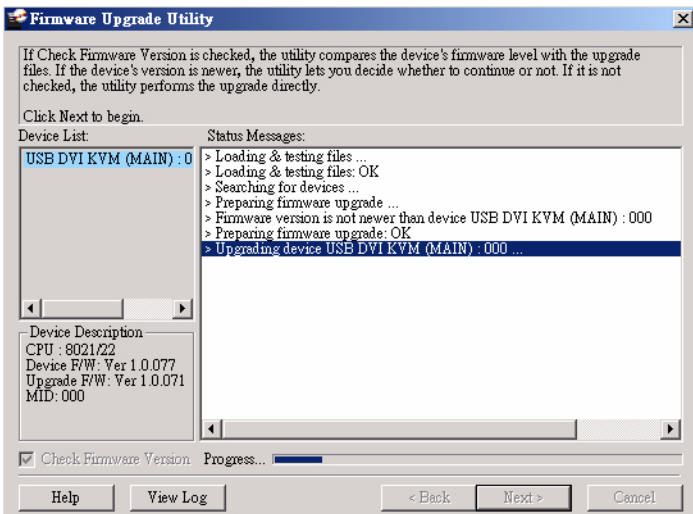
Upgrade Succeeded

After the upgrade has completed, a screen appears to inform you that the procedure was successful:
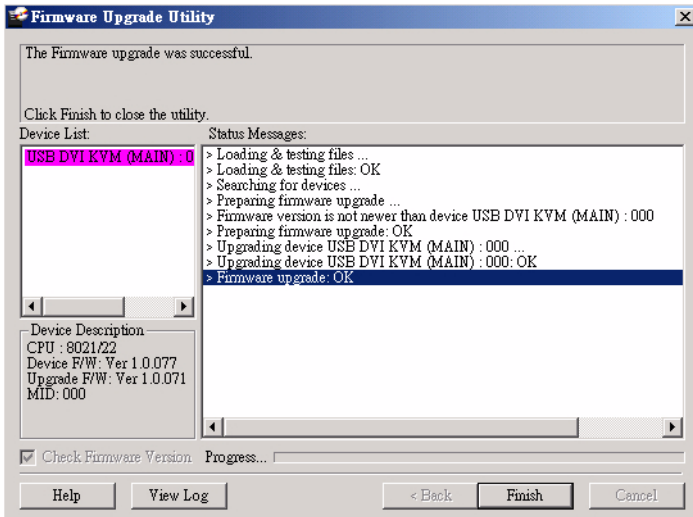
Click **Finish** to close the Firmware Upgrade Utility.

After a successful completion, the CS72D / CS74D exits Firmware Upgrade Mode, and resets itself.

Upgrade Failed

If the *Upgrade Succeeded* screen doesn't appear, it means that the upgrade failed to complete successfully, in which case you should do the following:

1. Power off the CS72D / CS74D by removing the power jack.

2. Invoke Firmware Upgrade Mode by holding down the front panel **Port 1** pushbutton (see page 23) and power on the CS72D / CS74D. Check the front panel LEDs – see page 24 for LED behavior details.

3. Do the firmware upgrade procedure again.

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Appendix

Safety Instructions

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- This product is for indoor use only.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation, it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

◆ If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

◆ To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).

◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.

◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.

◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.

◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.

    ◆ The power cord or plug has become damaged or frayed.

    ◆ Liquid has been spilled into the device.

    ◆ The device has been exposed to rain or water.

    ◆ The device has been dropped, or the cabinet has been damaged.

    ◆ The device exhibits a distinct change in performance, indicating a need for service.

    ◆ The device does not operate normally when the operating instructions are followed.

◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://eservice.aten.com**
- For telephone support, see *Telephone Support*, page iii.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

Specifications

Function			CS72D	CS74D
Computer Connections			2	4
Console Connections			1	1
Port Selection			Hotkey, Mouse switch, Front panel pushbuttons	
Connectors	Console Ports	KB	1 x USB Type A F (Iron)	
		Video	1 x DVI-D F (White)	
		Mouse	1 x USB Type A F (Iron)	
		Speakers	1 x Mini Stereo Jack F (Green)	
	Computer Port 1	KBMouse/ Video/ Speakers	1 x 44-pin Connector F	
	Computer Port 2	KBMouse/ Video/ Speakers	N/A	1 x 44-pin Connector F
	Power		N/A	1 x DC Jack
LEDs	KVM		2 (Green)	4 (Green)
Pushbuttons			2	4
Cable Length			1.2 m x 1 (44 pin)	1.2 m x 1 1.8m x 1 (44 pin)
Power Consumption			DC 5.0V, 5.0W	DC 5.3V, 5.3W
Emulation	KB / Mouse		USB	
Video			1920 x 1200 @60Hz	
Scan Interval			3, 5, 10, 20 seconds (5 secs. default)	
Environment	Operating Temp.		0–50ºC	
	Storage Temp.		-20–60ºC	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal	
	Weight		0.33kg	0.51kg
	Dimensions (L x W x H)		12.30 x 7.54 x 2.28 cm	19.80 x 7.54 x 2.28 cm

Troubleshooting

Operation problems can be due to a variety of causes. The first step in solving them is to make sure that all cables are securely attached and seated completely in their sockets.

Symptom	Possible Cause	Action
Erratic behavior.	Unit not receiving enough power.	Use a DC 5.3 V power adapter if you are not already using one. If you are already using a power adapter, check that it matches the system specifications, and that it is plugged in and functioning properly.
	Keyboard and/or mouse need to be reset.	Unplug the cable(s) from the console port(s), then plug it/them back in.
	No connection to the computer.	Check the cable from the switch to the computer to make sure it is properly connected.
	KVM switch needs to be reset.	Power off all devices on the installation; power off the KVM switch; wait five seconds; then power up.
USB devices not responding.	USB ports need to be reset.	Unplug the device's USB cable from the USB port on the switch's rear panel, then plug it back in.
		Use the USB Reset hotkey combination (see page 17), to reset the USB ports.
Cannot switch ports by pressing [Scroll Lock] twice	Keyboard is incompatible with Scroll Lock invocation.	Switch to the alternate port switching keys. See *Alternate Hotkey Setting Mode*, page 14, for details.
Monitor does not display after KVM cable set is hot plugged.	Some HDMI/DVI graphics cards are incompatible with cable set hot plugging.	Power off all devices on the installation; power off the CS72D / CS74D; confirm all KVM cables are properly connected; power on the CS72D / CS74D; power on the computers
When switching ports, the monitor does not display.	Monitor is new or this is the first time installation.	Switch ports again and wait two or more seconds for the PC's EDID to pass to the monitor.
	The monitor's EDID has not passed through to the PC when switching ports	Use the [d] hotkey to invoke Video DynaSync one more time or switch to another PC to reconnect the CS72D / CS74D. See *Hotkey Summary Table*, page 18.

Symptom	Possible Cause	Action
When switching ports, there is a several second delay before the change happens.	This can occur when keyboard emulation is disabled.	Use the [F10] hotkey to enable keyboard emulation. See *Hotkey Summary Table*, page 18.
When switching ports with the mousewheel, and I want to switch across two ports (from Port1 to Port 3, for example), sometimes the change doesn't happen.	The switch needs more time to process the mouse input.	Wait 3 – 4 seconds between ports before clicking for the next port.

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK, OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquiries, please contact your direct vendor.